IPM for Environmental Health Practitioners

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1. **IPM Basics**
	1. IPM = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		1. IPM is
		2. IPM makes
	2. Steps of IPM:
		1. I\_\_\_\_\_\_\_\_\_\_\_\_
		2. D\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		3. C\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		4. E\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. What is an action threshold?
	4. Choose your option (include some examples)
		1. Preventive
			1.
			2.
			3.
		2. Non-chemical
			1.
			2.
			3.
		3. Chemical
			1.
			2.
			3.
2. **Chemical sensitivity**
	1. MCS = \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. A disorder triggered by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to chemicals in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	3. Patient believes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are caused by very low-level exposure to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	4. Symptoms:
	5. MCS onset, severity:
	6. \_\_\_\_\_\_% of Americans are unusually sensitive to common chemicals.
	7. Consensus
		1. Symptoms
		2. Condition is
		3. Low levels of exposure
		4. Symptoms improve or
		5. Responses occur to
		6. Symptoms involve
	8. According to the Centers for Disease Control: MCS disorder is a
	9. PRIMARY TREATMENT for MCS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **Delusional parasitosis**
	1. Delusional parasitosis is
		1. Itching or
		2. Unexplained
		3. Fixation
		4. No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ present
	2. Other names for delusional parasitosis:
		1.
		2.
		3.
		4.
	3. Negative effects of delusional parasitosis
		1.
		2.
		3.
		4.
		5.
		6.
	4. Examples of home remedies:
	5. Causes of biting sensation
		1. Explicit
		2. Cryptic
		3. Delusional
			1. Primary: single delusional belief
			2. Secondary: in context with
			3. Organic:
	6. Possible contributing factors
		1.
		2.
		3.
		4.
		5.
		6.
	7. Rules to live by
		1.
		2.
	8. Mystery bug IPM
		1.
		2.
		3.
		4.
		5.
		6.
		7.
		8.
	9. National Unidentified Skin Parasite Association = \_\_\_\_\_\_\_\_\_\_\_
4. **Common pests**
	1. **Ants**
		1. C\_\_\_\_\_\_\_\_\_\_\_ a\_\_\_\_\_
			1.
			2.
			3.
			4.
		2. L\_\_\_\_\_\_\_ y\_\_\_\_\_\_\_\_ a\_\_\_\_\_\_
			1.
			2.
			3.
			4.
		3. O\_\_\_\_\_\_\_\_\_ h\_\_\_\_\_\_\_\_\_\_ a\_\_\_\_\_\_\_
			1.
			2.
			3.
			4.
		4. P\_\_\_\_\_\_\_\_\_\_\_ a\_\_\_\_\_\_\_\_
			1.
			2.
			3.
		5. Swarmers:
		6. Ant versus termite swarmer
			1.
			2.
			3.
		7. Ant colonies
		8. Ant management strategies
			1.
			2.
			3.
			4.
			5.
	2. **Cockroaches**
		1. General description:
		2. When are roaches active?
			1.
			2. Daytime sighting means:
			3. Roaches travel less than \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ from hiding place
		3. Life cycle: G\_\_\_\_\_\_\_\_\_ m\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		4. What do roaches eat?
		5. Four primary inside cockroach species in Iowa
			1.
			2.
			3.
			4.
		6. Number of bacterial diseases cockroaches can carry = \_\_\_\_\_
		7. Other microbes cockroaches can carry:
		8. Asthma triggers – bronchial irritating proteins found in \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_
		9. Why are pest allergens a problem??
		10. IPM – Sanitation examples
		11. IPM – Exclusion examples
		12. IPM – Chemical examples
		13. Why total release foggers are no good for pest control
	3. **Mice and rats**
		1. What is a rodent?
			1.
			2.
			3.
			4.
		2. Touching on the run
			1. V\_\_\_\_\_\_\_\_\_\_ and G\_\_\_\_\_\_\_\_ hairs serve to
			2.
		3. Rodent health hazards
			1. d.
			2. e.
			3.
5. Diseases examples
	* + - 1. H\_\_\_\_\_\_\_\_\_\_\_ virus
				2. B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plague
				3. Lymphocyctic choriomeningitis
				4. L\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ / W\_\_\_\_\_\_\_\_ syndrome
		1. Rodent gnawing
		2. Rat facts
			1.
			2.
			3.
		3. Mouse facts
			1.
			2.
			3.
		4. Signs of a rodent infestation
			1.
			2.
			3.
			4.
			5.
			6.
			7.
			8.
			9.
			10.
		5. Where rodents live
			1. Rats:
			2. Mice:
		6. Prevention and Control – Sanitation
		7. Prevention and Control – Exclusion
		8. Prevention and Control – Trapping
			1.
			2.
			3.
			4.
			5.
			6.
			7.
6. **Blood-sucking pests – I**
	1. **Bed bugs**
		1. Description
			1.
			2.
			3.
			4.
			5.
			6.
		2. Traumatic insemination
		3. Life cycle of bed bug
		4. Bed bug behavior
			1.
			2.
			3.
		5. Symptoms of bed bug infestation
			1.
			2.
			3.
			4.
			5.
		6. Bed bug hiding places
		7. Blood-feeding ectoparasites
			1.
			2.
			3.
			4.
			5.
			6.
			7.
		8. Bed bug bites
		9. How bed bugs spread
			1.
			2.
		10. Types of bed bug sites
			1. Temporary resting sites
			2. Temporary habitation sites
			3. Permanent nesting sites
		11. Bed bug management strategies
			1. Select ‘used’ furniture
			2. Encasements
				1.
				2.
				3.
				4.
			3. Sanitation/De-cluttering
				1.
				2.
				3.
			4. Monitoring
				1. Active
				2. Passive
				3. Canine
			5. Specific professional treatments
				1. T\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
				2. C\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. **Lice**
		1. Types
			1.
			2.
			3.
		2. Details about lice
		3. Lice life cycle
		4. Symptoms of lice infestation on a person
		5. Lice disease potential
			1. H
			2. B
				1. Louse-borne relapsing fever
				2. Trench fever
				3. Epidemic typhus
			3. P
		6. Epidemiology & risk factors
			1. H
			2. B
			3. P
		7. IPM methods
			1. Monitoring
			2. Management at school
			3. Management in homes
			4. Chemical methods
7. **Blood-sucking pests – II**
	1. Vector =
	2. Vector-borne diseases in Iowa = \_\_\_\_\_
	3. W\_\_\_\_\_ N\_\_\_\_\_\_ V\_\_\_\_\_\_\_
		1. Encephalitis =
		2. Meningitis =
		3. Primary host and vector for WNV=
		4. Number of *Culex* vectors in Iowa = \_\_\_\_
		5. Human transmission avenues
			1.
			2.
			3.
			4.
		6. WNV symptoms:
		7. Mosquito-borne disease prevention
			1. Limit
			2. Avoid
			3. Wear
			4. Use
			5. Be alert
	4. L\_\_\_\_\_\_\_ d\_\_\_\_\_\_\_\_
		1. Vector(s)=
		2. *Borrelia burgdorferi* is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		3. Most infections occur in
		4. How long must vector feed on host to transmit disease?
		5. Symptoms
			1.
			2.
			3.
			4.
			5.
	5. R\_\_\_\_\_\_\_\_ M\_\_\_\_\_\_\_\_\_\_\_\_\_ S\_\_\_\_\_\_\_\_\_ F\_\_\_\_\_\_\_
		1. *Rickettsia rickettsii* is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_
		2. Vector(s)=
		3. Symptoms
			1.
			2.
			3.
			4.
	6. Tick-borne disease prevention
		1. Stay
		2. Wear
		3. Use
		4. Speak
		5. Check
		6. Inspect
		7. Be sure
		8. Remove
	7. Mosquito-borne tropical diseases in the news
		1. Zika
			1. Vector(s)=
			2. Human-to-human transfer?
			3. What is the newsworthy item?
		2. Chikungunya
			1. Vector(s)=
			2. Symptoms:
	8. Preventing mosquito-borne diseases while traveling abroad
		1. Use
		2. Wear
		3. Stay
		4. Use a
8. **Stinging and occasional pests**
	1. **Stinging insect pests**
		1. H\_\_\_\_\_\_\_ b\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
				3.
		2. Y\_\_\_\_\_\_\_\_\_\_\_\_ and h\_\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
				3.
				4.
		3. P\_\_\_\_\_\_\_\_ w\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		4. D\_\_\_\_\_\_\_\_\_ w\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		5. M\_\_\_ - d\_\_\_\_\_\_\_ w\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		6. Stinging insect management – interior
			1.
			2.
			3.
			4.
		7. Stinging insect management – exterior
			1.
			2.
			3.
	2. **Occasional pests**
		1. H\_\_\_\_\_\_\_\_ c\_\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		2. M\_\_\_\_\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		3. M\_\_\_\_\_\_\_\_ A\_\_\_\_\_\_ L\_\_\_\_ B\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		4. B\_\_\_\_\_\_\_\_\_\_\_ b\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
				3.
		5. C\_\_\_\_\_\_\_\_ m\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		6. F\_\_\_\_\_\_\_\_\_ c\_\_\_\_\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		7. Occasional pests management
			1. Sanitation
				1. Remove
				2. Eliminate
				3. Eliminate
				4. Sweep or
			2. Exclusion
				1. Repair
				2. Improvement
	3. **Spiders**
		1. Most spiders can cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_
		2. W\_\_\_\_\_\_\_ s\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		3. B\_\_\_\_\_\_ W\_\_\_\_\_\_\_\_ s\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		4. B\_\_\_\_\_\_\_\_\_ R\_\_\_\_\_\_\_\_\_ s\_\_\_\_\_\_\_\_
			1. Identification
			2. Concerns
				1.
				2.
		5. Spider management – Sanitation
			1. Eliminate
				1.
			2. Eliminate
				1.
				2.
				3.
		6. Spider management – Exclusion
			1. Caulk
			2. Replace
		7. Spider management – Removal
		8. Spider management – Chemical
			1. Pesticides are \_\_\_\_\_\_ recommended